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Serial no. 10/047,266

Attorney docket no. 67,200-641

In the Claims

1. (currently amended) A method comprising:
plasma curing at least one photoresist layer of a semiconductor wafer to substantially prevent shrinkage resulting from subsequently utilizing an electron beam for critical dimension measurement; and,
measuring one or more critical dimensions on the at least one photoresist layer using the electron beam.
- 2.-3. (cancelled)
4. (previously presented) The method of claim 1, wherein plasma curing the at least one photoresist layer increases ion dosage of the at least one photoresist layer.
- 5.-7. (cancelled)
8. (previously presented) The method of claim 1, wherein measuring the one or more critical dimensions using the electron beam comprises critical dimension scanning electron microscope measurement of the one or more critical dimensions.
9. (previously presented) The method of claim 1, wherein measuring the one or more critical dimensions using the electron beam comprises after-development inspection of the one or more critical dimensions.
10. (previously presented) The method of claim 1, wherein measuring the one or more critical dimensions using the electron beam comprises after-etching inspection of the one or more critical dimensions.

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11. (previously presented) A method comprising:
- plasma curing a semiconductor wafer having at least one photoresist layer; and,
- after plasma curing the semiconductor wafer, measuring one or more critical dimensions on the at least one photoresist layer using an electron beam,
- such that plasma curing the semiconductor wafer prior to measuring the one or more critical dimensions using the electron beam substantially reducing shrinkage of the at least one photoresist layer when using the electron beam.
12. (previously presented) The method of claim 11, wherein plasma curing the semiconductor wafer increases ion dosage of the at least one photoresist layer, increasing resistance of the at least one photoresist layer to shrinkage when using the electron beam.
- 13.-14. (cancelled)
15. (previously presented) The method of claim 11, wherein measuring the one or more critical dimensions using the electron beam comprises one of: critical dimension scanning electron microscope measurement of the one or more critical dimensions; after-development inspection of the one or more critical dimensions; and, after-etching inspection of the one or more critical dimensions.
16. (withdrawn) A semiconductor device fabricated at least in part by performing a method comprising:
- plasma treating a semiconductor wafer having at least one photoresist layer; and
- after plasma treating the semiconductor wafer, measuring one or more critical dimensions on the at least one photoresist layer using an electron beam,

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such that plasma treating the semiconductor wafer prior to measuring the one or more critical dimensions using the electron beam decreases shrinkage of the at least one photoresist layer when using the electron beam.

17. (withdrawn) The device of claim 16, wherein plasma treating the semiconductor wafer increases ion dosage of the at least one photoresist layer, increasing resistance of the at least one photoresist layer to shrinkage when using the electron beam.

18. (withdrawn) The device of claim 16, wherein plasma treating the semiconductor wafer comprises plasma one of curing, plasma etching, and high-density plasma etching the semiconductor wafer.

19. (withdrawn) The device of claim 16, wherein the at least one photoresist layer comprises one of an Argon Fluoride 193 nanometer photoresist layer and a Fluoride 157 nanometer photoresist layer.

20. (withdrawn) The device of claim 16, wherein measuring the one or more critical dimensions using the electron beam comprises one of: critical dimension scanning electron microscope (CD-SEM) measurement of the one or more critical dimensions; after-development inspection (ADI) of the one or more critical dimensions; and, after-etching inspection (AEI) of the one or more critical dimensions.